

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application.

1. (Currently amended) A method for performing services ~~by~~ of a mobile phone, the method comprising:

~~setting at least one marker module for physical objects desired to be marked, wherein marking information of both said marker module itself and the marked objects is stored in said marker module, said marker module can transmit said marking information via a short-distance wireless message;~~

~~providing~~ setting a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive ~~the~~ a short-distance wireless message transmitted by ~~the~~ a blue tooth marker module set for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone ~~enters~~ has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records, ~~performing the corresponding entry trigger service.~~

2. (Currently amended) The method according to claim 1, further comprising:

providing preset stay trigger records in the mobile phone, said stay trigger records comprising a corresponding relationship between a predefined marking information and a predefined stay trigger service; and

performing the corresponding stay trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone ~~stays~~ has remained in the area marked by said marker module and a stay trigger service corresponding to the retrieved marking information is contained in said stay trigger records, ~~performing the corresponding stay trigger service.~~

3. (Currently amended) The method according to claim 1, further comprising:

providing preset exit trigger records in the mobile phone, said exit trigger records comprising a corresponding relationship between a predefined marking information and a predefined exit trigger service;

performing the corresponding exit trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone ~~exits~~ has exited the area marked by said marker module and an exit trigger service corresponding to the retrieved marking information is contained in said exit trigger records, ~~performing the corresponding exit trigger service.~~

4. (Currently amended) The method according to claim 2, wherein said stay trigger service may be a repeat trigger service performed repeatedly at preset time intervals, or a time trigger service performed at a preset time.

5. (Canceled)

6. (Currently amended) The method according to claim 1, wherein said area may be a single-marker area marked by a single marker module, or a multi-marker union area or a multi-marker intersection area marked by a plurality of marker modules.

7. (Currently amended) The method according to claim 6, wherein, as for any one of the entry trigger records, said mobile phone may work in the single-marker area mode or in the multi-marker union area mode;

wherein in the single-marker area mode, as for any marker module matching the trigger record, ~~when~~ the first time the mobile phone receives the marking information transmitted from the marker module, it determines that it ~~enters~~ has entered the single-marker area, and then performs a corresponding entry trigger service; and

~~and~~ wherein in the multi-marker union area mode, as for all marker modules matching the trigger record, ~~when~~ the first time the mobile phone receives the marking information transmitted from any one of the marker modules, it determines that it ~~enters~~ has entered the multi-marker union area, and then performs the corresponding entry trigger service.

8. (Currently amended) The method according to claim 6, wherein, as for any stay trigger record, said mobile phone may work in the single-marker area mode or multi-marker union area mode;

when said mobile phone works in the multi-marker union area mode, as for all marker modules matching the trigger record, if ~~it~~ said mobile phone receives the marking information transmitted from any marker module during a preset time period, the mobile phone then determines that it ~~stays~~ has remained in the multi-marker union area;

as for repeat trigger service, if ~~it stay~~ said mobile phone remains in the multi-marker union area, the mobile phone performs repeatedly the repeat trigger service at preset time intervals;

as for time trigger service, if ~~it stay~~ said mobile phone remains in the multi-marker union area, the mobile phone performs the time trigger service at a preset time.

9. (Previously presented) The method according to claim 6, wherein said marking information comprises Electronics Serial Number (ESN) and Group Number (GroupNo) of the marker module,

Object Class (ObjClass), Object Number (ObjNurn) and Object Name (ObjName) of the marked object, and three-dimensional coordinate offsets from the marker module to the marked object.

10. (Currently amended) The method according to claim 9, wherein,

said entry trigger record comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger mode (TriggerMode);

said exit trigger records comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger mode (TriggerMode);

said repeat trigger records comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, time interval (Interval) and trigger services; and

said time trigger records comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger time.

11. (Previously presented) The method according to claim 1, wherein said services comprises call transfer, incoming call barring, short message service, sleep, awake, alarm clock setting, ring style setting or ring volume setting.

12. (Currently amended) The method according to claim 10, wherein said trigger records comprise a trigger-permission time limit for triggering a certain service; when performing the entry trigger service, exit trigger service or stay trigger service, the mobile phone determines whether the present time is in the trigger-permission time limit; and if so, it performs the corresponding service, and otherwise, it doesn't perform.

13. (Currently amended) The method according to claim 12, wherein said trigger records further comprises a trigger-prohibition time limit for triggering certain service; when performing the entry trigger service, exit trigger service or stay trigger service, the mobile phone ~~determines~~ determining whether the present time is in the trigger-forbidden time limit[[,]] and if so, it doesn't perform the corresponding service, otherwise, ~~it performs~~ performing the service.

14. (Currently amended) The method according to claim 1, wherein, after receiving the marking information transmitted from any marker module via its identifier module, if said mobile phone detects that the marker module is a new one, then ~~it executes~~ executing authentication on the new marker module; if the new marker module passes authentication, the mobile phone further ~~determines~~ determining whether to trigger corresponding service, otherwise, deeming the marker module is ~~deemed~~ invalid.

15. (Currently amended) The method according to claim 14, wherein said authentication comprises:

in accordance with the marking information of a newly detected marker module received by its identifier module, sending by the mobile phone ~~sends of~~ its ID information and a random number to the marker module and ~~generates~~ generating a first encryption number based on said random number and its stored security key;

based on received ID information of the mobile phone, the marker module ~~searches~~ searching for a corresponding security key, if successful, ~~generating it will~~ generates a second encryption number based on the security key and the random number and ~~transmits~~ transmitting it to said mobile phone;

the mobile phone ~~compares~~ comparing the first encryption number with received second encryption number, and if the two are consistent, and then ~~determines~~ determining that the marker module passes authentication.

16. (Currently amended) The method according to claim 14, wherein, if ~~staying~~ remaining in the effective marked area of a certain marker module, the mobile phone ~~executes~~ executing the authentication on the marker module at preset time intervals.

17. (Previously presented) The method according to claim 1, wherein said marking information comprises Electronics Serial Number (ESN) and Group Number (GroupNo) of the marker module, Object Count (ObjCount) of the marked objects, list comprising Object Class (ObjClass), Object Number (ObjNurn), Object Name (ObjName) of the marked objects, and three-dimensional coordinate offsets.

18. (Previously presented) The method according to claim 1, wherein said marker module further comprises an environment-monitoring module for monitoring environmental parameters; said marking information further comprises the environmental parameters detected by the marker module.

19. (Previously presented) The method according to claim 18, wherein said environment-monitoring module can monitor one or many of the environmental temperature, humidity, pollution index, or noise; said environmental parameters may be one or many of the temperature, humidity, pollution index, or noise.

20. (Currently amended) The method according to claim 1, wherein said marker module broadcasts its essential marking information at preset time intervals, ~~after which is received by the~~ said mobile phone receiving said essential marking information and ~~that then sending~~ sends back a request, it transmits said mobile phone then receiving a transmission from said marker module with corresponding detailed marking information based on the ~~received~~ sent request.

21. (Previously presented) The method according to claim 20, wherein said essential marking information is the Electronics Serial Number (ESN) of the marker module, and said detailed marking information comprises the marking information of the marker module itself and that of the marked objects.

22. (Currently amended) The method according to claim 20, wherein said essential marking information is the communication address of the marker module, which may be a static allocated address or a dynamic allocated address.

23. (Currently amended) The method according to claim 1, wherein, if said mobile phone remains staying in the effective marked area of certain marker module, said mobile phone ~~will~~ initiatively initiating the sending of send a request to the marker module ~~which transmits and said~~ mobile phone receiving a transmission from the marker module with corresponding detailed marking information based on the ~~received~~ sent request.

24. (Currently amended) The method according to claim 7, wherein, ~~as for~~ every trigger record, said mobile phone may work in the multi-marker intersection area mode; and
when the mobile phone works in the multi-marker intersection area mode, said trigger records at least comprise a marking information list formed by the marking information of the plurality of marker modules, and said marking information list at least comprises the Electronics Serial Numbers (ESN) of the plurality of marker modules.

25. (Currently amended) A mobile phone, wherein said mobile phone comprises:
a wireless blue tooth identifier module, which comprises a receive module for receiving a short-distance wireless message transmitted from external blue tooth marker modules wherein said wireless receive module decodes out corresponding marking information from the wireless message;

preset entry trigger records wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service; and a micro processing unit (MPU) for receiving the marking information from the wireless receive module, and performing an entry trigger service corresponding to the received marking information when it determines based on the received marking information that the mobile phone ~~stays~~ remains in the area marked by said marker module and the corresponding entry trigger service is contained in said entry trigger records.

26. (Previously presented) The mobile phone according to claim 25, wherein said wireless identifier module further comprises a transmit module for transmitting a short-distance wireless message to the external marker modules.

27. (Currently amended) The method according to claim 6, wherein, as for any one of the exit trigger records, said mobile phone may work in the single-marker area mode or in the multi-marker union area mode;

wherein in the single-marker area mode, as for any marker module matching the trigger record, after the mobile phone enters the single-marker area, if it doesn't receive the marking information transmitted from the marker module during a preset time period, the mobile phone determines that it ~~exits~~ has exited the single-marker area, and then performs a corresponding exit trigger service;

wherein in the multi-marker union area mode, as for all marker modules matching the trigger record, after the mobile phone enters the multi-marker union area if it doesn't receive the marking information transmitted from any one of the marker modules during a preset time period, the mobile phone determines that it ~~exits~~ has exited the multi-marker area, and then performs the corresponding exit trigger service.